

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL  
CHAPTER 1200-3-31**

**CASE BY CASE DETERMINATIONS OF HAZARDOUS AIR POLLUTANT CONTROL  
REQUIREMENTS**

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**1200-3-31-.01 GENERAL PROVISIONS [RESERVED]**

**Authority:** T.C.A. §§68-201-105 and 4-5-201 et. seq. **Administrative History:** Original rule file July 5, 1994; effective September 18, 1994.

**1200-3-31-.02 DEFINITIONS** - The following definitions are applicable to this Chapter

- (1) “Major Source” - means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year of any combination of hazardous air pollutants. In addition, the provisions of subpart 1200-3-9-.02(11)(b)14(i) are recognized as to the grouping or aggregation of emissions for the purpose of calculating emission potential as it relates to the applicability thresholds of this definition. Additionally, electric utility steam generating units will not be regulated as major sources until the United States Environmental Protection Agency decides that they should be so regulated pursuant to Section 112(n) of the federal Clean Air Act.
- (2) “Area Source” - means any stationary source of hazardous air pollutants that is not a major source. Mobile sources such as vehicles, trains, planes, ships et cetera are not area sources.
- (3) “New Source” - means a stationary source that emits hazardous air pollutants as they are defined in this paragraph and is constructed or reconstructed on or after the date that the United States Environmental Protection Agency approves the major source operating permit program submitted by the State of Tennessee in accordance with Section 502(d) of the federal Clean Air Act.
- (4) “Stationary Source” - shall have the meaning given to it in subparagraph 1200-3-2-.01(1)(ddd).
- (5) “Existing Source” - is any stationary source that emits hazardous air pollutants as they are defined in this paragraph and is not a new source.
- (6) “Hazardous Air Pollutant” - means any of the following air contaminants:

(Rule 1200-3-31-.02, continued)

CAS No.	Chemical name
75070	Acetaldehyde
60355	Acetamide
75058	Acetonitrile
98862	Acetophenone
53963	2-Acetylaminofluorene
107028	Acrolein
79061	Acrylamide
79107	Acrylic acid
107131	Acrylonitrile
107051	Allyl chloride
92671	4-Aminobiphenyl
62533	Aniline
90040	o-Anisidine
1332214	Asbestos
71432	Benzene (including benzene from gasoline)
92875	Benzidine
98077	Benzotrichloride
100447	Benzyl chloride
92524	Biphenyl
117817	Bis(2-ethylhexyl)phthalate(DEHP)
542881	Bis(chloromethyl) ether
75252	Bromoform
106990	1,3-Butadiene
156627	Calcium cyanamide
133062	Captan
63252	Carbaryl
75150	Carbon disulfide
56235	Carbon tetrachloride
463581	Carbonyl sulfide
120809	Catechol
133904	Chloramben
57749	Chlordane
7782505	Chlorine
79118	Chloroacetic acid
532274	2-Chloroacetophenone
108907	Chlorobenzene
510156	Chlorobenzilate
67663	Chloroform
107302	Chloromethyl methyl ether
126998	Chloroprene
1319773	Cresols/Cresylic acid (isomers and mixture)
95487	o-Cresol
108394	m-Cresol
106445	p-Cresol
98828	Cumene
94757	2,4-D, salts and esters
3547044	DDE
334883	Diazomethane
132649	Dibenzofurans
96128	1,2-Dibromo-3-chloropropane

(Rule 1200-3-31-.02, continued)

84742	Dibutylphthalate
106467	1,4-Dichlorobenzene(p)
91941	3,3-Dichloro benzidine
111444	Dichloroethyl ether (Bis(2-chloroethyl)ether)
542756	1,3-Dichloropropene
62737	Dichlorvos
111422	Diethanolamine
121697	N,N-Diethyl aniline (N,N-Dimethylaniline)
64675	Diethyl sulfate
119904	3,3-Dimethoxybenzidine
60117	Dimethyl aminoazobenzene
119937	3,3'-Dimethyl benzidine
79447	Dimethyl carbamoyl chloride
68122	Dimethyl formamide
57147	1,1-Dimethyl hydrazine
131113	Dimethyl phthalate
77781	Dimethyl sulfate
534521	4,6-Dinitro-o-cresol, and salts
51285	2,4-Dinitrophenol
121142	2,4-Dinitrotoluene
123911	1,4-Dioxane (1,4-Diethyleneoxide)
122667	1,2-Diphenylhydrazine
106898	Epichlorohydrin (1-Chloro-2,3-epoxypropane)
106887	1,2-Epoxybutane
140885	Ethyl acrylate
100414	Ethyl benzene
51796	Ethyl carbamate (Urethane)
75003	Ethyl Chloride (Chloroethane)
106934	Ethylene dibromide (Dibromoethane)
107062	Ethylene dichloride (1,2-Dichlorethane)
107211	Ethylene glycol
151564	Ethylene imine (Aziridine)
75218	Ethylene oxide
96457	Ethylene thiourea
75343	Ethylidene dichloride (1,1-Dichloroethane)
50000	Formaldehyde
76448	Heptachlor
118741	Hexachlorobenzene
87683	Hexachlorobutadiene
77474	Hexachlorocyclopentadiene
67721	Hexachloroethane
822060	Hexamethylene-1,6-diisocyanate
680319	Hexamethylphosphoramide
110543	Hexane
302012	Hydrazine
7647010	Hydrochloric acid
7664393	Hydrogen fluoride (Hydrofluoric acid)
123319	Hydroquinone
78591	Isophorone
58899	Lindane (all isomers)
108316	Maleic anhydride
67561	Methanol

(Rule 1200-3-31-.02, continued)

72435	Methoxychlor
74839	Methyl bromide (Bromomethane)
74873	Methyl chloride (Chloromethane)
71556	Methyl chloroform (1,1,1-Trichloroethane)
78933	Methyl ethyl ketone (2-Butanone)
60344	Methyl hydrazine
74884	Methyl iodide (Iodomethane)
108101	Methyl isobutyl ketone (Hexone)
624839	Methyl isocyanate
80626	Methyl methacrylate
1634044	Methyl tert butyl ether
101144	4,4-Methylene bis(2-chloroaniline)
75092	Methylene chloride (Dichloromethane)
101688	Methylene diphenyl diisocyanate (MDI)
101779	4,4'-Methylenedianiline
91203	Naphthalene
98953	Nitrobenzene
92933	4-Nitrobiphenyl
100027	4-Nitrophenol
79469	2-Nitropropane
684935	N-Nitroso-N-methylurea
62759	N-Nitrosodimethylamine
59892	N-Nitrosomorpholine
56382	Parathion
82688	Pentachloronitrobenzene (Quintobenzene)
87865	Pentachlorophenol
108952	Phenol
106503	p-Phenylenediamine
75445	Phosgene
7803512	Phosphine
7723140	Phosphorus
85449	Phthalic anhydride
1336363	Polychlorinated biphenyls (Aroclors)
1120714	1,3-Propane sultone
57578	beta-Propiolactone
123386	Propionaldehyde
114261	Propoxur (Baygon)
78875	Propylene dichloride (1,2-Dichloropropane)
75569	Propylene oxide
75558	1,2-Propylenimine (2-Methyl aziridine)
91225	Quinoline
106514	Quinone
100425	Styrene
96093	Styrene oxide
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin
79345	1,1,2,2-Tetrachloroethane
127184	Tetrachloroethylene (Perchloroethylene)
7550450	Titanium tetrachloride
108883	Toluene
95807	2,4-Toluene diamine
584849	2,4-Toluene diisocyanate
95534	o-Toluidine

(Rule 1200-3-31-.02, continued)

8001352	Toxaphene (chlorinated camphene)
120821	1,2,4-Trichlorobenzene
79005	1,1,2-Trichloroethane
79016	Trichloroethylene
95954	2,4,5-Trichlorophenol
88062	2,4,6-Trichlorophenol
121448	Triethylamine
1582098	Trifluralin
540841	2,2,4-Trimethylpentane
108054	Vinyl acetate
593602	Vinyl bromide
75014	Vinyl chloride
75354	Vinylidene chloride (1,1-Dichloroethylene)
1330207	Xylenes (isomers and mixture)
95476	o-Xylenes
108383	m-Xylenes
106423	p-Xylenes
0	Antimony Compounds
0	Arsenic Compounds (inorganic including arsine)
0	Beryllium Compounds
0	Cadmium Compounds
0	Chromium Compounds
0	Cobalt Compounds
0	Coke Oven Emissions
0	Cyanide compounds <sup>1</sup>
0	Glycol ethers <sup>2</sup>
0	Lead Compounds
0	Manganese Compounds
0	Mercury Compounds
0	Fine mineral fibers <sup>3</sup>
0	Nickel Compounds
0	Polycyclic Organic Matter <sup>4</sup>
0	Radionuclides (including radon) <sup>5</sup>
0	Selenium Compounds

<sup>1</sup> X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or Ca(CN)<sub>2</sub>

<sup>2</sup> Includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub> - OR' where  
n = 1, 2, or 3

R = alkyl or aryl groups

R' = R, H, or groups which, when removed, yield glycol ethers with the structure: R-(OCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub> - OH. Polymers are excluded from the glycol category.

<sup>3</sup> Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

<sup>4</sup> Includes organic compounds with than one benzene ring, and which have a boiling point greater than or equal to 100<sup>0</sup>C.

<sup>5</sup> a type of atom which spontaneously undergoes radioactive decay.

(Rule 1200-3-31-.02, continued)

- (7) "Federal Clean Air Act" - means the federal statutes found at 42 U.S.C. 7401 et seq. as amended by Public Law No. 101-549 (November 15, 1990).
- (8) "MACT" - means maximum achievable control technology. It is a case by case determination of what constitutes a maximum achievable reduction of hazardous air pollutants considering the costs of achieving the emission reduction and any non-air quality health and environmental impacts and energy requirements. MACT may include but is not limited to: control equipment, work practice standards, emission standards, process modifications or raw materials substitution and/or reformulation.
- (9) "GACT" - means generally available control technology. It is a case by case determination of what constitutes reasonable and proper control for hazardous air pollutants from area sources. GACT may include, but is not limited to: control equipment, work practice standards, emission standards, process modification or raw materials substitution and/or reformulation.
- (10) Reserved.

**Authority:** T.C.A. §§68-201-105 and 4-5-201 *et. seq.* **Administrative History:** Original rule file July 5, 1994; effective September 18, 1994. Amendment filed November 12, 1998; effective January 26, 1999.

**1200-3-31-.03 INTENT OF THE BOARD** For Case by Case Determinations of Hazardous Air Pollutant Control Requirements:

- (1) The role of the United States Environmental Protection Agency is recognized by the Board as being essential in the setting of case by case determinations of hazardous air pollutant control requirements. The federal Agency is in the unique position to conduct research and compile national data bases as to the source by source control levels that are being achieved or proposed in the regulation of hazardous air pollutants. As the State of Tennessee does not fully possess these abilities, the Technical Secretary shall avail himself of the federal Agency's resources prior to setting a case by case hazardous air pollutant requirement. In addition, the Technical Secretary shall recognize any federal law, federal regulation or lawfully promulgated policy of the United States Environmental Protection Agency pertaining to case by case determinations of hazardous air pollutant requirements as the minimum acceptable criteria prior to the setting of a case by case hazardous air pollutant requirement under the provisions of this rule.
- (2) The Technical Secretary may consider other applicable criteria in the absence of any data or requirement of the United States Environmental Protection Agency. In such case, the Technical Secretary shall rely upon generally accepted engineering principles and any unique aspects of a source category as a whole that would be a prohibitory factor in the imposition of a requirement for industries in that source category.
- (3) To the extent possible, it is the Board's intent to impose MACT and GACT limitations equivalent to that required by the United States Environmental Protection Agency at the time of the case by case determination. Should there be a prudent reason to be more stringent than the federal equivalent, the Technical Secretary may issue a more stringent MACT or GACT requirement. In exercise of the authority to issue a more stringent requirement, the Technical Secretary shall issue a determination specifying the rationale employed in the setting of a more stringent requirement. The determination shall accompany the permit in which the case by case determination is declared. As the declaration of a case by case requirement will be specified on a permit, disputes regarding the imposition of MACT or GACT are to be resolved in the manner

(Rule 1200-3-31-.03, continued)

prescribed by rule 1200-3-9-.05. If GACT is done on a permit by rule basis, the Board will view the public hearing process as the permittee's opportunity to object to the requirements of GACT. However, the permittee may appeal the applicability of GACT to their operations as to commenced date or emission/production magnitude applicability thresholds present at their source.

**Authority:** T.C.A. §§68-201-105 and 4-5-201 et. seq. **Administrative History:** Original rule file July 5, 1994; effective September 18, 1994.

#### **1200-3-31-.04 STANDARD FOR EXISTING SOURCES**

- (1) Major sources will be issued an operating permit pursuant to the provisions of paragraph 1200-3-9-.02(11) listing their current hazardous air pollutant emission rate on a pollutant by pollutant basis. These "hollow permits" will remain in effect until one or more of the following activities occur:
  - (a) When the United States Environmental Protection Agency promulgates MACT for a source specific category pursuant to Sections 112(d) or (h) of the federal Clean Air Act, the Technical Secretary shall specify MACT for all existing major sources in that category as a revision to their "hollow permit". Upon written notification from the Technical Secretary, the source shall have 180 days to prepare their application for a MACT permit revision and submit it to the Technical Secretary. The Technical Secretary shall process the application by issuing a permit within 9 months of receipt of a complete application. MACT revisions to hollow permits shall be issued within 18 months of promulgation. A compliance schedule to attain MACT by a date certain shall be made part of the permit. The length of the schedule to attain compliance shall be determined by the complexities of coming into compliance and the Board's intent to be equivalent to the federal MACT. The Technical Secretary shall provide that the source's compliance schedule is at least as long as the federal rules allow. In most areas, this should not exceed three years. The Technical Secretary is authorized to grant up to a one year extension to comply as long as it does not conflict with the federal requirements and there is sufficient justification to grant the additional time.
  - (b) If the United States Environmental Protection Agency fails to meet the Federal Clean Air Act schedules prescribed in Section 112(e)(1) and/or (3) for timely promulgation of MACT requirements thereby invoking the "MACT hammer" provisions at Section 112(j) of the federal Clean Air Act, the Technical Secretary shall specify MACT for all sources in the source category in question as a permit revision to their "hollow permit". Sources subject to the missed MACT standard shall file a complete MACT permit revision application with the Technical Secretary no later than 18 months after the federally missed deadline for the source category. The Technical Secretary shall process the MACT permit revision application by issuing a permit within 18 months of his receipt of a complete application.
- (2) Area sources that are not exempt from the requirement to obtain a permit pursuant to rule 1200-3-9-.04 will be issued an operating permit specifying GACT with an appropriate compliance schedule to achieve that requirement by a date certain within 18 months of the United States Environmental Protection Agency's promulgation of a source specific GACT standard if they are in that source specific category. The date to achieve compliance shall be no less than that allowed by the federal rule which promulgated GACT for that source category. If a source is not

(Rule 1200-3-31-.04, continued)

exempted from the requirement to obtain a permit pursuant to rule 1200-3-9-.04, it shall be the duty of such area source owner or operator to register their annual emissions of hazardous air pollutants with the Technical Secretary utilizing the forms prescribed by the Technical Secretary. In the interest of efficiency, the Technical Secretary may bring proposed regulations to the Board that would permit area sources by rule on a source category specific basis. It is the intent of the Board that such rule would be effective within 18 months of the federal GACT promulgation. The rule will also provide that compliance with GACT shall be attained no later than that specified by the equivalent federal rule.

**Authority:** T.C.A. §§68-201-105 and 4-5-201 et. seq. **Administrative History:** Original rule file July 5, 1994; effective September 18, 1994. Amendment filed December 15, 1997; effective February 28, 1998.

#### **1200-3-31-.05 STANDARD FOR NEW SOURCES**

- (1) Major sources shall utilize MACT as prescribed by the Technical Secretary upon start up regardless of whether or not the United States Environmental Protection Agency has established MACT under Section 112(d) or (h) of the Federal Clean Air Act. MACT shall be prescribed on the source's construction permit and transferred to the source's operating permit upon start up of the facility.
- (2) Area sources that are not exempt from the requirement to obtain a permit in accordance with rule 1200-3-9-.04 shall utilize GACT as prescribed by the Technical Secretary upon start up **if** the United States Environmental Protection Agency has established GACT under Section 112(d)(5). GACT shall be prescribed on the source's construction permit and transferred to the source's operating permit upon start up of the facility.

**Authority:** T.C.A. §§68-201-105 and 4-5-201 et. seq. **Administrative History:** Original rule file July 5, 1994; effective September 18, 1994. Amendment filed December 12, 1997; effective February 25, 1998.

#### **1200-3-31-.06 OPPORTUNITY FOR EARLY REDUCTIONS SCHEDULE**

- (1) The owner or operator of an existing source of hazardous air pollutants may be issued an operating permit allowing 6 additional years to comply with a future MACT commencing on the compliance date of that MACT limit if each of the following criteria are satisfied:
  - (a) The source will utilize control and/or work practices that will result in a 90 per centum or more reduction in emissions of hazardous air pollutants (95 per centum in the case of hazardous air pollutants which are particulates).
    1. The reduction shall be determined with respect to verifiable and actual emissions in a base year not earlier than calendar year 1987.
    2. If there is evidence that emissions in the base year 1987, or any subsequent base year are artificially or substantially greater than emissions in other years prior to the implementation of the early emission reductions, the Technical Secretary shall require the use of an arithmetic average of the years commencing upon the suspect year and ending upon the period of time when the person seeking the early reductions schedule files their plan for the purpose of determining base year emission levels.



(Rule 1200-3-31-.06, continued)

3. The Technical Secretary may allow a source to use 1985 or 1986 emission data for the purpose of determining base year emissions if the source has submitted such data to him in a form that can be used to make the baseline calculations and further that such information was in his possession prior to November 15, 1990.
- (2) The early emission reduction must occur prior to the federal proposal of a source category specific MACT standard to which the source will be subject. Federal proposal will be considered effective when the United States Environmental Protection Agency publishes the standard in the Federal Register. The reduction need not actually occur prior to the federal proposal if the source owner or operator has committed to an enforceable schedule that extends no further than January 1, 1994.
- (3) A major source operating permit must be issued to the source owner or operator pursuant to the provisions of paragraph 1200-3-9-.02(11) detailing the schedule to attain the early emission reductions and the enforceable emission limit that is to be attained. For the purposes of this subparagraph, the Technical Secretary shall issue the permit within 9 months of a complete application.
- (4) The early reductions of less toxic hazardous air pollutants shall not be credited toward the reduction of highly toxic hazardous air pollutants (such as, but not limited to chlorinated dioxins and furans) that pose high risks of adverse public health effects associated with exposure to small quantities of such highly toxic hazardous air pollutants. The Technical Secretary shall use the relative risks of chlorinated dioxins and furans as a qualitative benchmark in determining whether or not a hazardous air pollutant is highly toxic.

**Authority:** T.C.A. §§68-201-105 and 4-5-201 et. seq. **Administrative History:** Original rule file July 5, 1994; effective September 18, 1994.

#### **1200-3-31-.07 RESIDUAL RISK AND REVISIONS TO MACT**

- (1) MACT standards are subject to revision if the United States Environmental Protection Agency determines that the existing MACT standards are insufficient to protect the public pursuant to the residual risk provisions of Section 112(f) of the federal Clean Air Act. Upon such finding, the Technical Secretary shall modify previously set MACT limitations in that source category to conform to the federally promulgated revised MACT standards within 18 months of such federal promulgation. Said modification will be a permit revision to the source's operating permit consistent with the provisions of paragraph 1200-3-9-.02(11). The Technical Secretary shall prescribe a compliance schedule on the permit amendment that will specify an expeditious date to attain compliance with the revised MACT standards. The length of the schedule will be determined by the complexities of coming into compliance and the Board's desire to be equivalent to any federally revised MACT requirements.

**Authority:** T.C.A. 68-201-105 and 4-5-202. **Administrative History:** Original Rule filed July 5, 1994; effective September 18, 1994.

**1200-3-31-.08 through 1200-31-1-.12 Reserved.**

**1200-3-31-.13 NATIONAL PERCHLOROETHYLENE AIR EMISSION STANDARDS FOR DRY  
CLEANING FACILITIES**

- (1) Applicability.
  - (a) The provisions of this rule apply to the owner or operator of each dry cleaning facility that uses perchloroethylene.
  - (b) Each dry cleaning system that commences construction or reconstruction on or after December 9, 1991, shall be in compliance with the provisions of this rule beginning on September 15, 1993 or immediately upon startup, whichever is later, except for dry cleaning systems complying with Section 112(i)(2) of the Clean Air Act as amended Nov. 15, 1990.
  - (c) Each dry cleaning system that commenced construction or reconstruction before December 9, 1991, and each new transfer machine system and its ancillary equipment that commenced construction or reconstruction on or after December 9, 1991, and before September 22, 1993, shall comply with subparagraphs 1200-3-31-.13(3)c), (d), (i), (j), (k), (l), and (m), 1200-3-31-.13(4)(d), and 1200-3-31-.13(5)(a), (b), (d)1., (d)2., (d)3., (d)4., and (e) beginning on December 15, 1993, and shall comply with other provisions of this rule by September 15, 1996.
  - (d) Each existing dry-to-dry machine and its ancillary equipment located in a dry cleaning facility that includes only dry-to-dry machines and each existing transfer machine system and its ancillary equipment and each new transfer machine system and its ancillary equipment installed between December 9, 1991, and September 22, 1993, as well as each existing dry-to-dry machine and its ancillary equipment, located in a dry cleaning facility that includes both transfer machine system(s) and dry-to-dry machine(s) is exempt from 1200-3-31-.13(3), 1200-3-31-.13(4), and 1200-3-31-.13(5), except subparagraphs 1200-3-31-.13(3)(c), (d), (i), (j), (k), (l), and (m), 1200-3-31-.13(4)(d), and 1200-3-31-.13(5)(a), (b), (d)1., (d)2., (d)3., (d)4., and (e) if the total perchloroethylene consumption of the dry cleaning facility is less than 530 liters (140 gallons) per year. Consumption is determined according to 1200-3-31-.13(4)(d).
  - (e) Each existing transfer machine system and its ancillary equipment, and each new transfer machine system and its ancillary equipment installed between December 9, 1991, and September 22, 1993, located in a dry cleaning facility that includes only transfer machine system(s) is exempt from 1200-3-31-.13(3), 1200-3-31-.13(4), and 1200-3-31-.13(5), except subparagraphs 1200-3-31-.13(3)(c), (d), (i), (j), (k), (l), and (m), 1200-3-31-.13(4)(d), and 1200-3-31-.13(5)(a), (b), (d)1., (d)2., (d)3., (d)4., and (e) if the perchloroethylene consumption of the dry cleaning facility is less than 760 liters (200 gallons) per year. Consumption is determined according to 1200-3-31-.13(4)(d).
  - (f) If the total yearly perchloroethylene consumption of a dry cleaning facility determined according to 1200-3-31-.13(4)(d) is initially less than the amounts specified in subparagraph (d) or (e) of this paragraph, but later exceeds those amounts, the existing dry cleaning system(s) and new transfer machine system (s) and its (their) ancillary equipment installed between December 9, 1991, and September 22, 1993, in the dry cleaning facility must comply with 1200-3-31-.13(3), 1200-3-31-.13(4), and 1200-3-31-.13(5) by 180 calendar days from the date that the facility determines it has exceeded the amounts specified, or by September 15, 1996, whichever is later.

(Rule 1200-3-31-.13, continued)

- (g) A dry cleaning facility is a major source if the facility emits or has the potential to emit more than 9.1 megagrams per year (10 tons per year) of perchloroethylene to the atmosphere. In lieu of measuring a facility's potential to emit perchloroethylene emissions or determining a facility's potential to emit perchloroethylene emissions, a dry cleaning facility is a major source if:
    - 1. It includes only dry-to-dry machine(s) and has a total yearly perchloroethylene consumption greater than 8,000 liters (2,100 gallons) as determined according to 1200-3-31-.13(4)(d); or
    - 2. It includes only transfer machine system(s) or both dry-to-dry machine(s) and transfer machine system(s) and has a total yearly perchloroethylene consumption greater than 6,800 liters (1,800 gallons) as determined according to 1200-3-31-.13(4)(d).
  - (h) A dry cleaning facility is an area source if it does not meet the conditions of Subparagraph (g) of this Paragraph.
  - (i) If the total yearly perchloroethylene consumption of a dry cleaning facility determined according to 1200-3-31-.13(4)(d) is initially less than the amounts specified in Subparagraph (g) of this Paragraph, but then exceeds those amounts, the dry cleaning facility becomes a major source and all dry cleaning systems located at that dry cleaning facility must comply with the appropriate requirements for major sources under 1200-3-31-.13(3), 1200-3-31-.13(4), and 1200-3-31-.13(5) by 180 calendar days from the date that the facility determines it has exceeded the amount specified, or by September 15, 1996, whichever is later.
  - (j) All coin-operated dry cleaning machines are exempt from the requirements of this Rule.
- (2) Definitions
- (a) "Administrator" means the Administrator of the United States Environmental Protection Agency.
  - (b) "Ancillary equipment" means the equipment used with a dry cleaning machine in a dry cleaning system including, but not limited to, emission control devices, pumps, filters, muck cookers, stills, solvent tanks, solvent containers, water separators, exhaust dampers, diverter valves, interconnecting piping, hoses, and ducts.
  - (c) "Articles" mean clothing, garments, textiles, fabrics, leather goods, and the like, that are dry cleaned.
  - (d) "Area source" means any perchloroethylene dry cleaning facility that meets the conditions of 1200-3-31-.13(1)(h).
  - (e) "Biweekly" means any 14-day period of time.
  - (f) "Carbon adsorber" means a bed of activated carbon into which an air-perchloroethylene gas-vapor stream is routed and which adsorbs the perchloroethylene on the carbon.

(Rule 1200-3-31-.13, continued)

- (g) "Coin-operated dry cleaning machine" means a dry cleaning machine that is operated by the customer (that is, the customer places articles into the machine, turns the machine on, and removes articles from the machine).
- (h) "Colorimetric detector tube" means a glass tube (sealed prior to use), containing material impregnated with a chemical that is sensitive to perchloroethylene and is designed to measure the concentration of perchloroethylene in air.
- (i) "Construction", for purposes of this Rule, means the fabrication (onsite), erection, or installation of a dry cleaning system subject to this Rule.
- (j) "Desorption" means regeneration of a carbon adsorber by removal of the perchloroethylene adsorbed on the carbon.
- (k) "Diverter valve" means a flow control device that prevents room air from passing through a refrigerated condenser when the door of the dry cleaning machine is open.
- (l) "Dry cleaning" means the process of cleaning articles using perchloroethylene.
- (m) "Dry cleaning cycle" means the washing and drying of articles in a dry-to-dry machine or transfer machine system.
- (n) "Dry cleaning facility" means an establishment with one or more dry cleaning systems.
- (o) "Dry cleaning machine" means a dry-to-dry machine or each machine of a transfer machine system.
- (p) "Dry cleaning machine drum" means the perforated container inside the dry cleaning machine that holds the articles during dry cleaning.
- (q) "Dry cleaning system" means a dry-to-dry machine and its ancillary equipment or a transfer machine system and its ancillary equipment.
- (r) "Dryer" means a machine used to remove perchloroethylene from articles by tumbling them in a heated air stream (see reclaimer).
- (s) "Dry-to-dry machine" means a one-machine dry cleaning operation in which washing and drying are performed in the same machine.
- (t) "Exhaust damper" means a flow control device that prevents the air-perchloroethylene gas-vapor stream from exiting the dry cleaning machine into a carbon adsorber before room air is drawn into the dry cleaning machine.
- (u) "Existing" means commenced construction or reconstruction before December 9, 1991.
- (v) "Filter" means a porous device through which perchloroethylene is passed to remove contaminants in suspension. Examples include, but are not limited to, lint filter (button trap), cartridge filter, tubular filter, regenerative filter, prefilter, polishing filter, and spin disc filter.

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- (w) "Heating coil" means the device used to heat the air stream circulated from the dry cleaning machine drum, after perchloroethylene has been condensed from the air stream and before the stream reenters the dry cleaning machine drum.
- (x) "Major source" means any dry cleaning facility that meets the conditions of 1200-3-31-.13(1)(g).
- (y) "Muck cooker" means a device for heating perchloroethylene-laden waste material to volatilize and recover perchloroethylene.
- (z) "New" means commenced construction or reconstruction on or after December 9, 1991.
- (aa) "Perceptible leaks" mean any perchloroethylene vapor or liquid leaks that are obvious from:
  - 1. The odor of perchloroethylene;
  - 2. Visual observation, such as pools or droplets of liquid; or
  - 3. The detection of gas flow by passing the fingers over the surface of equipment.
- (bb) "Perchloroethylene consumption" means the total volume of perchloroethylene purchased based upon purchase receipts or other reliable measures.
- (cc) "Reclaimer" means a machine used to remove perchloroethylene from articles by tumbling them in a heated air stream (see dryer).
- (dd) "Reconstruction", for purposes of this Rule, means replacement of a washer, dryer, or reclaimer; or replacement of any components of a dry cleaning system to such an extent that the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source.
- (ee) "Refrigerated condenser" means a vapor recovery system into which an air-perchloroethylene gas-vapor stream is routed and the perchloroethylene is condensed by cooling the gas-vapor stream.
- (ff) "Refrigerated condenser coil" means the coil containing the chilled liquid used to cool and condense the perchloroethylene.
- (gg) "Responsible official" means one of the following:
  - 1. For a corporation: A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more dry cleaning facilities;
  - 2. For a partnership: A general partner;
  - 3. For a sole proprietorship: The owner; or

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- 4. For a municipality, State, Federal, or other public agency: Either a principal executive officer or ranking official.
- (hh) "Room enclosure" means a stationary structure that encloses a transfer machine system, and is vented to a carbon adsorber or an equivalent control device during operation of the transfer machine system.
- (ii) "Source", for purposes of this Rule, means each dry cleaning system.
- (jj) "Still" means any device used to volatilize and recover perchloroethylene from contaminated perchloroethylene.
- (kk) "Temperature sensor" means a thermometer or thermocouple used to measure temperature.
- (ll) "Transfer machine system" means a multiple-machine dry cleaning operation in which washing and drying are performed in different machines. Examples include, but are not limited to:
  - 1. A washer and dryer(s),
  - 2. A washer and reclaimer(s), or
  - 3. A dry-to-dry machine and reclaimer(s).
- (mm) "Washer" means a machine used to clean articles by immersing them in perchloroethylene. This includes a dry-to-dry machine when used with a reclaimer.
- (nn) "Water separator" means any device used to recover perchloroethylene from a water-perchloroethylene mixture.
- (oo) "Year or Yearly" means any consecutive 12-month period of time.
- (3) Standards.
  - (a) The owner or operator of each existing dry cleaning system and of each new transfer system and its ancillary equipment installed between December 9, 1991, and September 22, 1993," shall comply with either (a)1. or (a)2. of this Subparagraph and shall comply with (a)3. of this Subparagraph if applicable.
    - 1. Route the air-perchloroethylene gas-vapor stream contained within each dry cleaning machine through a refrigerated condenser or an equivalent control device.
    - 2. Route the air-perchloroethylene gas-vapor stream contained within each dry cleaning machine through a carbon adsorber installed on the dry cleaning machine prior to September 15, 1993.
    - 3. Contain the dry cleaning machine inside a room enclosure if the dry cleaning machine is a transfer machine system located at a major source. Each room enclosure shall be:

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- (i) Constructed of materials impermeable to perchloroethylene; and
  - (ii) Designed and operated to maintain a negative pressure at each opening at all times that the machine is operating.
- (b) The owner or operator of each new dry cleaning system and its ancillary equipment and each new transfer machine system and its ancillary equipment installed after September 22, 1993":
  - 1. Shall route the air-perchloroethylene gas-vapor stream contained within each dry cleaning machine through a refrigerated condenser or an equivalent control device;
  - 2. Shall eliminate any emission of perchloroethylene during the transfer of articles between the washer and dryer(s); and
  - 3. Shall pass the air-perchloroethylene gas-vapor stream from inside the dry cleaning machine drum through a carbon adsorber or equivalent control device immediately before or as the door of the dry cleaning machine is opened if the dry cleaning machine is located at a major source.
- (c) The owner or operator shall close the door of each dry cleaning machine immediately after transferring articles to or from the machine, and shall keep the door closed at all other times.
- (d) The owner or operator of each dry cleaning system shall operate and maintain the system according to the manufacturers' specifications and recommendations.
- (e) Each refrigerated condenser used for the purposes of complying with Subparagraph (a) or (b) of this Paragraph and installed on a dry-to-dry machine, dryer, or reclaimer:
  - 1. Shall be operated to not vent or release the air-perchloroethylene gas-vapor stream contained within the dry cleaning machine to the atmosphere while the dry cleaning machine drum is rotating;
  - 2. Shall be monitored according to 1200-3-31-.13(4)(a)1.; and
  - 3. Shall be operated with a diverter valve, which prevents air drawn into the dry cleaning machine when the door of the machine is open from passing through the refrigerated condenser.
- (f) Each refrigerated condenser used for the purpose of complying with Subparagraph (a) of this paragraph and installed on a washer:
  - 1. Shall be operated to not vent the air-perchloroethylene gas-vapor contained within the washer to the atmosphere until the washer door is opened;
  - 2. Shall be monitored according to 1200-3-31-.13(4)(a)2.; and
  - 3. Shall not use the same refrigerated condenser coil for the washer that is used by a dry-to-dry machine, dryer, or reclaimer.

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- (g) Each carbon adsorber used for the purposes of complying with Subparagraphs (a) or (b) of this paragraph:
  - 1. Shall not be bypassed to vent or release any air-perchloroethylene gas-vapor stream to the atmosphere at any time; and
  - 2. Shall be monitored according to the applicable requirements in 1200-3-31-.13(4)(b) or (c).
- (h) Each room enclosure used for the purposes of complying with Subparagraph (a)3. of this Paragraph:
  - 1. Shall be operated to vent all air from the room enclosure through a carbon adsorber or an equivalent control device; and
  - 2. Shall be equipped with a carbon adsorber that is not the same carbon adsorber used to comply with Subparagraph (a)2. or (b)3. of this Paragraph.
- (i) The owner or operator of an affected facility shall drain all cartridge filters in their housing, or other sealed container, for a minimum of 24 hours, or shall treat such filters in an equivalent manner, before removal from the dry cleaning facility.
- (j) The owner or operator of an affected facility shall store all perchloroethylene and wastes that contain perchloroethylene in solvent tanks or solvent containers with no perceptible leaks.
- (k) The owner or operator of a dry cleaning system shall inspect the following components weekly for perceptible leaks while the dry cleaning system is operating:
  - 1. Hose and pipe connections, fittings, couplings, and valves;
  - 2. Door gaskets and seatings;
  - 3. Filter gaskets and seatings;
  - 4. Pumps;
  - 5. Solvent tanks and containers;
  - 6. Water separators;
  - 7. Muck cookers;
  - 8. Stills;
  - 9. Exhaust dampers;
  - 10. Diverter valves; and
  - 11. Cartridge filter housings.



(Rule 1200-3-31-.13, continued)

- (l) The owner or operator of a dry cleaning facility with a total facility consumption below the applicable consumption levels of 1200-3-31-.13(1)(d) or (e) shall inspect the components listed in Subparagraph (k) of this Paragraph biweekly for perceptible leaks while the dry cleaning system is operating.
  - (m) The owner or operator of a dry cleaning system shall repair all perceptible leaks detected under Subparagraph (k) of this Paragraph within 24 hours. If repair parts must be ordered, either a written or verbal order for those parts shall be initiated within 2 working days of detecting such a leak. Such repair parts shall be installed within 5 working days after receipt.
  - (n) If parameter values monitored under Subparagraphs (e), (f), or (g) of this Paragraph do not meet the values specified in 1200-3-31-.13(4)(a), (b), or (c), adjustments or repairs shall be made to the dry cleaning system or control device to meet those values. If repair parts must be ordered, either a written or verbal order for such parts shall be initiated within 2 working days of detecting such a parameter value. Such repair parts shall be installed within 5 working days after receipt.
- (4) Test methods and monitoring.
- (a) When a refrigerated condenser is used to comply with 1200-3-31-.13(3)(a)1. or (b)1.:
    - 1. The owner or operator shall measure the temperature of the air-perchloroethylene gas-vapor stream on the outlet side of the refrigerated condenser on a dry-to-dry machine, dryer, or reclaimer weekly with a temperature sensor to determine if it is equal to or less than 7.2 oC (45 oF). The temperature sensor shall be used according to the manufacturer's instructions and shall be designed to measure a temperature of 7.2 oC (45 oF) to an accuracy of  $\pm 1.1$  oC ( $\pm 2$  oF).
    - 2. The owner or operator shall calculate the difference between the temperature of the air-perchloroethylene gas-vapor stream entering the refrigerated condenser on a washer and the temperature of the air-perchloroethylene gas-vapor stream exiting the refrigerated condenser on the washer weekly to determine that the difference is greater than or equal to 11.1 oC (20 oF).
      - (i) Measurements of the inlet and outlet streams shall be made with a temperature sensor. Each temperature sensor shall be used according to the manufacturer's instructions, and designed to measure at least a temperature range from 0 oC (32 oF) to 48.9 oC (120 oF) to an accuracy of  $+ 1.1$  oC ( $+ 2$  oF).
      - (ii) The difference between the inlet and outlet temperatures shall be calculated weekly from the measured values.
  - (b) When a carbon adsorber is used to comply with 1200-3-31-.13(3)(a)2. or exhaust is passed through a carbon adsorber immediately upon machine door opening to comply with 1200-3-31-.13(3)(b)3., the owner or operator shall measure the concentration of perchloroethylene in the exhaust of the carbon adsorber weekly with a colorimetric detector tube, while the dry cleaning machine is venting to that carbon adsorber at the end of the last dry cleaning cycle prior to desorption of that carbon adsorber to

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determine that the perchloroethylene concentration in the exhaust is equal to or less than 100 parts per million by volume. The owner or operator shall:

1. Use a colorimetric detector tube designed to measure a concentration of 100 parts per million by volume of perchloroethylene in air to an accuracy of  $\pm 25$  parts per million by volume; and
2. Use the colorimetric detector tube according to the manufacturer's instructions; and
3. Provide a sampling port for monitoring within the exhaust outlet of the carbon adsorber that is easily accessible and located at least 8 stack or duct diameters downstream from any flow disturbance such as a bend, expansion, contraction, or outlet; downstream from no other inlet; and 2 stack or duct diameters upstream from any flow disturbance such as a bend, expansion, contraction, inlet, or outlet.

- (c) If the air-perchloroethylene gas-vapor stream is passed through a carbon adsorber prior to machine door opening to comply with 1200-3-31-.13(3)(b)3., the owner or operator of an affected facility shall measure the concentration of perchloroethylene in the dry cleaning machine drum at the end of the dry cleaning cycle weekly with a colorimetric detector tube to determine that the perchloroethylene concentration is equal to or less than 300 parts per million by volume. The owner or operator shall:

1. Use a colorimetric detector tube designed to measure a concentration of 300 parts per million by volume of perchloroethylene in air to an accuracy of  $\pm 75$  parts per million by volume; and
2. Use the colorimetric detector tube according to the manufacturer's instructions; and
3. Conduct the weekly monitoring by inserting the colorimetric detector tube into the open space above the articles at the rear of the dry cleaning machine drum immediately upon opening the dry cleaning machine door.

- (d) When calculating yearly perchloroethylene consumption for the purpose of demonstrating applicability according to 1200-3-31-.13(1), the owner or operator shall perform the following calculation on the first day of every month:

1. Sum the volume of all perchloroethylene purchases made in each of the previous 12 months, as recorded in the log described in 1200-3-31-.13(5)(d)1.
2. If no perchloroethylene purchases were made in a given month, then the perchloroethylene consumption for that month is zero gallons.
3. The total sum calculated in Subparagraph (d) of this Paragraph is the yearly perchloroethylene consumption at the facility.

- (5) Recordkeeping and reporting requirements.

(Rule 1200-3-31-.13, continued)

- (a) Each owner or operator of a dry cleaning facility shall notify the Technical Secretary in writing within 270 calendar days after September 23, 1993 (i. e. June 18, 1994) and provide the following information:
  - 1. The name and address of the owner or operator;
  - 2. The address (that is, physical location) of the dry cleaning facility;
  - 3. A brief description of the type of each dry cleaning machine at the dry cleaning facility;
  - 4. Documentation as described in 1200-3-31-.13(4)(d) of the yearly perchloroethylene consumption at the dry cleaning facility for the previous year to demonstrate applicability according to 1200-3-31-.13(1); or an estimation of perchloroethylene consumption for the previous year to estimate applicability with 1200-3-31-.13(1); and
  - 5. A description of the type of control device(s) that will be used to achieve compliance with 1200-3-31-.13(3)(a) or (b) and whether the control device(s) is currently in use or will be purchased.
  - 6. Documentation to demonstrate to the Administrator's satisfaction that each room enclosure used to meet the requirements of 1200-3-31-.13(3)(a)3. meets the requirements of 1200-3-31-.13(3)(a)3.(i) and (ii).
- (b) Each owner or operator of a dry cleaning facility shall submit to the Technical Secretary by registered mail on or before the 30th day following the compliance dates specified in 1200-3-31-.13 (1) (b) or (c) or June 18, 1994, whichever is later, a notification of compliance status providing the following information and signed by a responsible official who shall certify its accuracy:
  - 1. The yearly perchloroethylene solvent consumption limit based upon the yearly solvent consumption calculated according to 1200-3-31-.13(4)(d);
  - 2. Whether or not they are in compliance with each applicable requirement of 1200-3-31-.13(3); and
  - 3. All information contained in the statement is accurate and true.
- (c) Each owner or operator of an area source dry cleaning facility that exceeds the solvent consumption limit reported in Subparagraph (b) of this paragraph shall submit to the Technical Secretary on or before the dates specified in 1200-3-31-.13 (1) (f) or (i), a notification of compliance status providing the following information and signed by a responsible official who shall certify its accuracy:
  - 1. The new yearly perchloroethylene solvent consumption limit based upon the yearly solvent consumption calculated according to 1200-3-31-.13(4)(d);
  - 2. Whether or not they are in compliance with each applicable requirement of 1200-3-31-.13(3); and
  - 3. All information contained in the statement is accurate and true.

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- (d) Each owner or operator of a dry cleaning facility shall keep receipts of perchloroethylene purchases and a log of the following information and maintain such information on site and show it upon request for a period of 5 years:
  - 1. The volume of perchloroethylene purchased each month by the dry cleaning facility as recorded from perchloroethylene purchases; if no perchloroethylene is purchased during a given month then the owner or operator would enter zero gallons into the log;
  - 2. The calculation and result of the yearly perchloroethylene consumption determined on the first day of each month as specified in 1200-3-31-.13(4)(d);
  - 3. The dates when the dry cleaning system components are inspected for perceptible leaks, as specified in 1200-3-31-.13(3)(k) or (l), and the name or location of dry cleaning system components where perceptible leaks are detected;
  - 4. The dates of repair and records of written or verbal orders for repair parts to demonstrate compliance with 1200-3-31-.13(3)(m) and (n);
  - 5. The date and temperature sensor monitoring results, as specified in 1200-3-31-.13(4) if a refrigerated condenser is used to comply with 1200-3-31-.13(3)(a) or (b); and
  - 6. The date and colorimetric detector tube monitoring results, as specified in 1200-3-31-.13(4), if a carbon adsorber is used to comply with 1200-3-31-.13(3)(a)2. or (b)3.
- (e) Each owner or operator of a dry cleaning facility shall retain onsite a copy of the design specifications and the operating manuals for each dry cleaning system and each emission control device located at the dry cleaning facility.
- (6) Determination of equivalent emission control technology.
  - (a) Any person requesting that the use of certain equipment or procedures be considered equivalent to the requirements under 1200-3-31-.13(3) shall collect, verify, and submit to the Technical Secretary and Administrator the following information to show that the alternative achieves equivalent emission reductions:
    - 1. Diagrams, as appropriate, illustrating the emission control technology, its operation and integration into or function with dry-to-dry machine(s) or transfer machine system(s) and their ancillary equipment during each portion of the normal dry cleaning cycle;
    - 2. Information quantifying vented perchloroethylene emissions from the dry-to-dry machine(s) or transfer machine system(s) during each portion of the dry cleaning cycle with and without the use of the candidate emission control technology;

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3. Information on solvent mileage achieved with and without the candidate emission control technology. Solvent mileage is the average weight of articles cleaned per volume of perchloroethylene used. Solvent mileage data must be of continuous duration for at least 1 year under the conditions of a typical dry cleaning operation. This information on solvent mileage must be accompanied by information on the design, configuration, operation, and maintenance of the specific dry cleaning system from which the solvent mileage information was obtained;
  4. Identification of maintenance requirements and parameters to monitor to ensure proper operation and maintenance of the candidate emission control technology;
  5. Explanation of why this information is considered accurate and representative of both the short-term and the long-term performance of the candidate emission control technology on the specific dry cleaning system examined;
  6. Explanation of why this information can or cannot be extrapolated to dry cleaning systems other than the specific system(s) examined; and
  7. Information on the cross-media impacts (to water and solid waste) of the candidate emission control technology and demonstration that the cross-media impacts are less than or equal to the cross-media impacts of a refrigerated condenser.
- (b) For the purpose of determining equivalency to control equipment required under 1200-3-31-.13(3), the Technical Secretary and the Administrator will evaluate the petition to determine whether equivalent control of perchloroethylene emissions has been adequately demonstrated.
- (c) Where the Technical Secretary and the Administrator determine that certain equipment and procedures may be equivalent, the Administrator will publish a notice in the Federal Register proposing to consider this equipment or these procedures as equivalent. After notice and opportunity for public hearing, the Administrator will publish the final determination of equivalency in the Federal Register.

**Authority:** T.C.A §§. 68-201-105 and 4-5- 201 *et seq.* **Administrative History:** Original rule filed May 10, 1994; effective July 24, 1994. Amendment filed August 28, 1997; effective November 11, 1997.